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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,613	08/22/2003	Shunpei Yamazaki	0756-7190	8274

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EXAMINER
DUONG, TAI V

ART UNIT	PAPER NUMBER
2871	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/645,613	YAMAZAKI ET AL.	
	Examiner	Art Unit	
	Tai Duong	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 08/024,946.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *08/04/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Amended claims 1, 5, 10, 16 and 20 recite the newly added limitation "a black coating formed between said layer and said second substrate" while new dependent claims 25-29 further recite "black stripes comprising the black coating are formed between the layer and the second substrate".

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-29 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 of U.S. Patent No. 6,618,105 in view of Iwai et al.

The only difference between the instant claims and the patent claims is the omission of the feature "wherein a thickness of said layer is 2.5-10 um" from the patent claims, and the added feature "black stripes comprising the black coating are formed between the layer and the second substrate". Iwai et al disclose in Fig. 3 that it was known to employ black stripes 18 comprising the black coating being formed between the liquid crystal layer 4 and the second substrate 17 for protecting the semiconductor

layer of the TFT from being exposed to a direct incident light (col. 4, lines 13-27 and 52-58). Thus, it would have been obvious to a person of ordinary skill in the art in view of Iwai et al to employ black stripes comprising the black coating being formed between the liquid crystal layer and the second substrate in the patent claims for protecting the semiconductor layer of the TFT from being exposed to a direct incident light. Also, it would have been obvious to a person of ordinary skill in the art to omit the thickness detail of the liquid crystal (LC) layer of the liquid crystal display (LCD) device of the patent claims when such detail is not critical for the LCD device.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-9, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al in view of JP 62-178905.

The only difference between the LCD device of the instant claims and that of Kimura et al is black stripes comprising the black coating being formed between the liquid crystal layer and the second substrate. See discussions of Kimura in the last Office action. The JP 62-178905 discloses in Fig. 1 and the abstract that it was known to employ black stripes 3 comprising the black coating being formed between the liquid crystal layer and the second substrate *in combination with* the substrate of MIM (first

substrate). Thus, it would have been obvious to a person of ordinary skill in the art in view of JP 62-178905 to employ black stripes comprising the black coating being formed between the liquid crystal layer and the second substrate in the LCD device of Kimura et al for providing good light shielding at locations between adjacent pixels thereby improving the display contrast.

Claims 10-15 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakai et al (US 5,003,356) in view of Kobayashi et al (US 5,305,126) and Iwai et al.

Wakai et al disclose in Figs. 3 and 5 a LCD device, similar to that of the instant claims, including a smoothing film 108 (col. 4, lines 15-20). The only differences between the LCD device of Wakai and that of the instant claims are a liquid crystal (LC) being dispersed in a transparent resin (polymer dispersed liquid crystal, PDLC), and black stripes comprising the black coating being formed between the liquid crystal layer and the second substrate. Kobayashi et al disclose in the Sixth Embodiment that it was known to employ a LCD device comprising thin film transistors (TFTs) and PDLC (col. 16, line 25 – col. 17, line 52). Further, Kobayashi et al disclose that the optimum amount of the LC employed in the mixture is in the range between 50% and 97% (col. 17, lines 17-19). Iwai et al disclose in Fig. 3 that it was known to employ black stripes 18 comprising the black coating being formed between the liquid crystal layer 4 and the second substrate 17 for protecting the semiconductor layer of the TFT from being exposed to a direct incident light (col. 4, lines 13-27 and 52-58). Thus, it would have

been obvious to a person of ordinary skill in the art in view of Kobayashi et al to employ a PDLC with a mixture ratio of the LC and the transparent resin being 4:6 to 8:2 in Wakai's LCD device for obtaining a bright display device with good response to the applied electric field and good contrast. Also, it would have been obvious to a person of ordinary skill in the art in view of Iwai et al to employ black stripes comprising the black coating being formed between the liquid crystal layer and the second substrate in Wakai's LCD device for protecting the semiconductor layer of the TFT from being exposed to a direct incident light.

Claims 16-24, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura et al'945 in view of Applicant's Prior Art Admission (APAA) and JP 62-178905 .

The only difference between Kimura's LCD device and of the instant claims is the LCD having a memory property. See discussions of Kimura in the above 102 rejection. As is well-known in the art, ferroelectric and antiferroelectric LC devices have a memory property (see Jono et al, US 5,078,477, cited by Applicant). APAA discloses that a PDLC device using a ferroelectric LC material is known (specification, page 7, lines 12-21). The JP 62-178905 discloses in Fig. 1 and the abstract that it was known to employ black stripes 3 comprising the black coating being formed between the liquid crystal layer and the second substrate *in combination with* the substrate of MIM (first substrate). Thus, it would have been obvious to a person of ordinary skill in the art in view of APAA to employ a ferroelectric LC material as the LC in the PDLC display device of Kimura et al for obtaining a display device having a memory property and

rapid response. Also, it would have been obvious to a person of ordinary skill in the art in view of JP 62-178905 to employ black stripes comprising the black coating being formed between the liquid crystal layer and the second substrate in the LCD device of Kimura et al for providing good light shielding at locations between adjacent pixels thereby improving the display contrast.

Due to oversight , claims 16-19 were not listed in the rejection of claims 20-24 over Kimura et al'945 and Applicant's Prior Art Admission in the last Office action. Claims 20-24 are narrower in scope than that of claims 16-19 because they additionally recite a plurality of switching elements and a plurality of pixel electrodes arranged in a matrix form over the first substrate.

Applicant's arguments with respect to amended claims 124 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to Tai Duong at telephone number (571) 272-2291.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

TVD

11/04

TOANTON
PRIMARY EXAMINER